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JUG

Publication of the Northern California Contest Club

NCCC

54 years of contesting excellence

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NCCC MEETING
https://nccc.cc/meetings.html

Sun 27 July 2025
“N6XI's Radio Grill”
(*details follow Editor Notes*)

Wayne Burdick, N6KR, one of the co-founders of Elecraft will be in attendance to provide insights into new Elecraft offerings.

President's Report

David West, KO6M

Happy Belated Fourth! While it’s the 4th of July while I type this, it is well after the 4th by the time you are reading it.

I hope your Field Day was a success. I know mine was. Not because I made x amount of contacts or used y radio for the first time, but because I was at a radio event with a handful of others, and we made zero contacts between 5 of us other than the conversations we had. Now, yes, Eric, N6SPP, was on the air and teaching someone various things, but the conversations we were having were a fantasticc bit of education for even seasoned hams.

I got to see an antenna that I had been interested in buying up close and personal. (Thankfully too because now I know how big it really is.) Someone else got to learn about other options of portable antennas as well. We saw a neat Go Box for a radio setup. The list goes on and on about things we learned, together, and in person.

I was basically scolded for being a “contester,” but that was expected. I didn’t have the heart to tell him that I really did care for the side of the hobby he was promoting since he was happy and it didn’t affect me.

Where was I going with this? Well, it helped me realize that I had done well with the planning of our next two meetings (possibly three if I get my stuff together). That is to say, the next meeting, this July’s, is at

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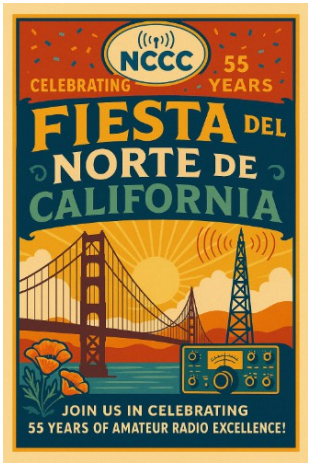
Ricks Truckee QTH. He didn't mean for it to be the "meeting," but it seems like it just became the thing. Details to follow later in the newsletter. RSVP to myself, N6XI, or on member planet. **(*Ed. A couple of places in this issue. Please let Rick know that you're attending and how many*)** I am looking forward to a gathering of full-on like-minded hams where we can in person discuss our little part of the hobby. Zoom has been great but I hope to see more of you in person in the next two months. Either at the Sierra BBQ at Ricks house or with our joint meeting with MLDXCC in August. Details coming with that.



Following that, in August, on the 9th, we will be having both our "on-air event" aptly named the NCCC 55th Anniversary Fiesta. I know you are probably sick of me mentioning it, but I'm excited. I plan on being on the air and contacting you all. Details for it are available on the website: *http://nccc.cc/55th.html*. In hindsight, we could have done a meeting about it, but we've mentioned it so many times that I didn't think you all would like to see me talk about it one more time. The gist is simple: 15/20/40M, from 1900z to 0300z August 9th. Contact as many people as you can, hopefully more NCCC Members past and present (maybe even future). Tell them the year you became a member and their state. Give them your info. Log it. Chat if you would like. Then repeat as the ability allows. Why? Because it's the club's 55th anniversary!

Don't forget, before we have that, you have a chance to dust off the RTTY machine for NAQP RTTY the first full weekend in August (1800 UTC Aug 2 to 0559 UTC Aug 3). We will be encouraging members to commit soon.

That's it form me, it's been a busy couple months with work and life.

73, and see you hopefully soon!

David, KO6M

KPH "Night of Nights"

12 July 2025 0000 GMT

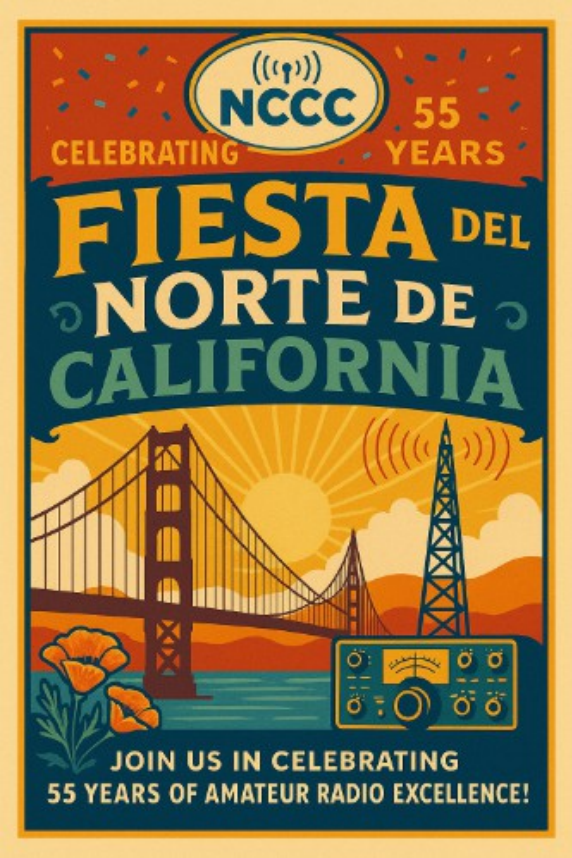
The Marine Radio Historical Society has announced the annual Night of Nights for 2025 commemorating the end of MF/HF CW in the Maritime Service in 1999. KPH will transmit a commemorative message beginning at 0001 UTC on 426 and 500 kcs in the MF band and ITU Ch 3 [4247.0, 6477.5, 8642,0, 12808.5, 17016.8, and 22477.5 kcs] beginning at 0001 GMT after a 1 minute call-up.

K6KPH will also be standing watch on 3550, 7050, 14050, 18097.5, and 21050 kcs for signal reports and other amateur traffic. Simply drop your call repeatedly on one of the frequencies [if not QRL] and the operator will call you. If you get a QRY 3 QRX 10, it means the operator is busy, you are number 3 in the queue, and it will be about 10 mins.

KPH also has another "Crypto Event" coming up, more in the JUG when details are announced.

NCCC Will Be 55 in August!

NCCC will be celebrating its 55th anniversary in August with an on-air Fiesta del Norte de California event on Saturday, 9 Aug from 0900Z, to 0300Z Sunday, 10 Aug [Saturday, 1200-2000 PDT] --- eight hours of celebration and on air fun!



This is both an 8 hour celebration event and a celebratory contest on CW, SSB, and RTTY, with very simple rules:

Power: Categories are the usual QRP (<=5W), LP (<=100W) and HP [as much as you can get out of your amplifier while remaining legal].

All Bands: 160 m through 6 m, excluding the 30, 17, and 12 meters of course. Work a station once on each band/mode.

Everyone Works Everybody: Equality is our middle name!

Self-Spotting Allowed: It's a Fiesta! Feel free to spot yourself, anyone else, or work out a schedule on-line, on-yelephone, or in-person ahead of or during the event.

Bonus Stations: There will be several 1x1 bonus stations such as N6N, K6C, and W6C, each worth 5 points on each band.

Simple Exchange: Members send their state and year they joined NCCC [or closest guess], non-members just send state. Feel free to engage in conversation … It's a Fiesta.

Scoring:

Work each station once per band/mode: but, no penalties for dupes.

NCCC Members: 2 points per QSO

Non-members: 1 point per QSO

Logs: Look for an NN1MM+ UDC file soon. This is a fun event and logs will not be adjudicated. However, you may submit your log to ***ko6m@arrl.net*** OR post your scores to ***3830scores.com*** within 7 days. The top single-op scores in each power group for both members and non-members will receive a $55 VISA gift card!

So, mark your calendar for the **Fiesta del Norte California on the 9th of August** as NCCC sets off on its next 55 years of Contesting Excellence.

Upcoming State/Province QSO Parties

Thanks to WA7BNM

https://contestcalendar.com/stateparties.php

State/Province	Dates/Times
Alabama	26 Jul 1500Z to 27 Jul 0300Z
Maryland	9 Aug 1400Z to 10 Aug 0400Z
Hawaii	**23 Aug 0400Z to 25 Aug 0400Z**
Ohio	23 Aug 1600Z to 24 Aug 0400Z
Colorado	30 Aug 1300Z to 31 Aug 0400Z
Kansas	30 Aug 1400Z to 31 Aug 0200Z 31 Aug 1400Z to 2000Z
Tennesee	7 Sep 1700Z to 8 Sep 0300Z
New Jersey	20 Sep 1400Z to 21 Sep 0159Z
Washington Salmon Run	20 Sep 1600Z to 21 Sep 0700Z 21 Sep 1600Z to 2400Z
New Hampshire	20 Sep 1600Z to 21 Sep 0400Z 21 Sep 1200Z 2200Z
Maine	27 Sep 1200Z to 28 Sep 1200Z
California	**4 Oct 1600Z to 5 Oct 2200Z**
Nevada	**11 Oct 0300Z to 12 Oct 2100Z**

Larger Contests on the Horizon

NAQP RTTY	19 Jul 1800Z to 20 Jul 0600Z
NAQP CW	2 Aug 1800Z to 3 Aug 0600Z
WAE DX - CW	9 Aug 0000Z to 10 Aug 2359Z1
NAQP SSB	6 Aug 1800Z to 17 Aug 0600Z
CWops “CW Open”	6 Sep 0000Z to 2359Z
CWops “CW Open”	6 Sep 1200Z to 1559Z
CWops “CW Open”	6 Sep 2000Z to 2359Z
All Asian DX - SSB	6 Sep 0000Z to 7 Sep 2400Z
WAE DX - SSB	13 Sep 0000Z to 14 Sep 2359Z

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Weekly CW (1 hr) Events

ID	DAY	UTC	EXCH	WPM	SPONSOR
SST	Fri	2000 - 2100	Name+SPC	<20	K1USN
	Mon	0000 - 0100			
MST	Mon	1300 - 1400	Name+QSO#	20-25	ICWC
	Mon	1900 - 2000			
	Tue	0300 - 0400			
CWT	Wed	1300 - 1400	Name+CWO# or Name+SPC	20->∞	CWops
	Wed	1900 - 2000			
	Thu	0300 - 0400			
	Thu	0700 - 0800			

Thursday FT4 NCCC Sprint

The Northern California Club is again pleased to sponsor our weekly FT4 Sprint, aka FT4NS (NCCC Sprint). This contest is held every Friday UTC between 0100Z and 0130Z (Thursday evening in North America). Non-North American stations are welcome to participate. No logs are necessary; please submit your score to 3830scores.com using the "NCCC FT4 Sprint" template. FT4 NS Sprint Rules are posted at: https://www.ncccsprint.com/ns.html See you on the screen! Frequencies: 1839, 3575, 7047.5 (also 7080), 14080, 21140, 28180, 50318.

N6XI Truckee Radio Grill
27 July 2025

Rick and Ann are hosting the NCCC Sierra radio grill at their Truckee home overlooking Boca Reservoir. Begins at 1100, Burgers et al go on the fire at 1200. Please RSVP to Rick, N6XI, at n6xi@arrl.net if attending.

Wayne Burdick, N6KR, and Eric Swartz, WA6HHQ, are scheduled to attend, likely with news and maybe samples from Elecraft

See "Editor Notes" near the end of this issue for details

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Tom Taormina K5RC SK

With great regret, we report the death of Tom Taormina, K5RC. Tom died suddenly on 9 Jun 2025 from a heart attack. Tom had had several health issues following the covid pandemic. From Houston TX, he began his ham radio career as a teen, and was bitten early by the contest bug. Together with Grady, W5FU (SK), Tom built a major contest station and began setting records. He served as Editor of the National Contest Journal, and was a member of the group that established the Multi-Two category in ARRL DX, and the group that created the North American QSO Party. Also a Dxer, he was at the top of the DXCC Honor Roll.

About a dozen or so years ago, Tom and his wife Midge, K7AFO, moved west to Nevada's Comstock near Virginia City and, again with Grady's support, began building the W7RN Superstation on ~10 acres of mountain top at 6,500 ft. Whiskey Seven Radio Nevada ultimately grew to a primary operating position with 3-K3S transceivers, 7 towers, and 23 antennas. Additionally, three K3's were configured for remote operations with all the stations sharing all the antennas through a switch matrix. A number of NCCC members took 1st place in a number of contests including ARRL Sweepstakes, RTTY, and DX contests.

In addition to hosting championship operators, both on-site and remotely. Tom introduced amateur radio to the local Challenger Space Academy and was active in Storey County ARES and emergency services.

Rest in Peace Tom, you and W7RN will long be remembered.

Tom Taormina K5RC/W7RN

remembered by Rusty, W6OAT

Wow ... I've known Tom for over 50 years, but when I sat down to write this email I'm drawing a complete blank on how and when he and I actually met. I think, though, it was in the early 1970s. Back then, Tom lived in Houston, TX, and was working at the Johnson Space Center. His callsign was WA5LES and he was very active in ARRL Sweepstakes and the CW CD Parties. I think I was in Houston for a business meeting and just called him on the telephone and introduced myself. He recognized me as someone he had worked in contests and invited me over to his house. We became good friends and remained so ever since.

Tom loved amateur radio and was involved with many facets of our hobby. He certainly enjoyed contesting and was good at it as evidenced by his being Inductee #50 into the CQ Contest Hall of Fame in 2007. Tom was a DXer -- he held DXCC #1 Honor Roll and at the time when he passed away on June 9, his DXCC count was 340/374. Tom was a member of the First Class CW Operators Club (FOC) and an early member of CW Ops. He also was involved in Emergency Communications and, I believe, was the ARRL Emergency Coordinator for Storey County, NV. He loved station building and was the designer of the K5XI super-station back in the early 1990s, and the W7RN mega-station when he moved to Nevada.

Some other things I remember about Tom (in no particular order): He was a co-creator of the North American QSO Party; He was on the CQ WW DX Contest Committee; He helped develop the Multi-two category in the ARRL DX Contest; For several years he was the Editor of The National Contest Journal; He was the General Chairman of the ARRL National Convention held in Houston in 1983; He served as a Director of the Yasme Foundation for nearly a quarter century; and he was a Referee at the 1996 WRTC in the Bay Area.

Tom was very active in The Texas DX Society in the 1980s and was a prime mover in getting that club to sponsor the "Great Armadillo Run" in which they activated all 254 Texas Counties in a single weekend. The logistics of that event were amazing. I recall Tom telling me that they had about 15 mobile stations on the road and were coordinating their activity from several aircraft flying a mile or so high over central Texas. Whenever the TDXS folks realized a county was not otherwise active, they called up to the planes which then directed a mobile to go there! Even better, Tom was primarily responsible for persuading the Texas Governor to create a new Texas county -- Armadillo County -- just for that weekend so actually there were 255 counties to work, not 254!

I miss seeing you guys.

73, Rusty, W6OAT

Antenna of the Month

Multi-Band Verticals

Gary, NA6O

(Ed. Note: Figures appear at the end of the article)

A holy grail for many hams is an antenna that's usable on nearly all bands that takes up very little room. This time we're talking *multi-band verticals*. While compromised in several ways, they at least get us on the air. For this survey, we'll only consider the contraptions that are resonant on their supported bands (without adjustment) as opposed to the non-resonant ones that are heavily reliant on an antenna tuner, such as a 43-foot vertical.

What About Radials?

Every vertical antenna has an associated ground radial system, sometimes called a counterpoise. When dealing with multiple bands, an effective solution is ground-based radials which are non-resonant. The drawback is that you have to deploy quite a few long wires in your yard in order to achieve good efficiency (radials provide a low-loss return path instead of the lossy Earth). Another solution could be *elevated* radials which are resonant, but that would mean that you need separate wires for each band, and that's quite a cobweb. Yet another solution is an *off-center fed vertical dipole* (OCFVD) where the radials are a single, fixed length, and need not be very long. We'll review a couple of designs like that.

Some Models That Use Ground Radials

Reminder: All of these antennas require a robust ground radial system in order to maintain efficiency. See the *ARRL Antenna Book* for some design recommendations and tradeoffs for ground radials.

DX Commander [Ref.1] offers several models that use ground-based radials covering everything from 80 through 2m. For the vertical elements, they use an array of parallel 1/4-wavelength wires, making this the vertical equivalent of a fan dipole and nicely resonant on all bands. This is electrically very simple with no traps or elaborate mechanical contraptions though some elements fold back or have small loading inductors. Their kits include plastic guides that keep the wires parallel (Fig 1.). Assuming you can put down an adequate radial field, this will be an efficient antenna with good bandwidth on each band. A drawback is that it's going to be tall, e.g., 33 ft for 40m. They do have a loading kit for 80m to keep it from ending up in the stratosphere. Overall, I really like these antennas because of their straightforward design, efficiency, bandwidth, and power handling.

Hustler is an old brand (now owned and sold by DX Engineering) of trapped verticals that require ground-based radials. For instance, the 6BTV covers 10, 15, 20, 30, 40, and 80m and is only 24 ft tall. There are five traps in series which add inductance thus shortening the antenna on the lower bands. They are rated for high power (1 kW CW) and have reasonable SWR bandwidth except on 80m where it's roughly 80 kHz (2:1), which is typical of any shortened antenna. The only issue I have is loss in the traps and the possibility of trap failure with weather and time.

Butternut is another older company now owned by DX Engineering offering a 6- and a 9-band version. The HF6V covers 10, 15, 20, 30, 40, and 80m and is 26 ft tall. They use several interesting tricks including

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loading coils, traps, and transmission line matching sections. Their traps are pretty serious, being made of large aluminum tubing and low-loss ceramic capacitors (Fig. 2). This minimizes loss and fully supports high power. Once again its reduced height means bandwidth will be limited on 40m (150 kHz, 2:1) and 80m (<80 kHz). Like all complex multi-band verticals, plan on spending some time with an antenna analyzer and your toolkit to adjust the SWR on each band per the instructions. And if you choose the big brother with nine bands, tuning may be even more interesting. Overall, this is another solid though complex antenna design.

The OCFVD Vertical

Hy-Gain and **Cushcraft** made a number of popular models based on off-center fed vertical dipoles such as the R6000, R9 and AV640, but with the demise of MFJ, they are only available on the used market. Today there are a couple of other companies making antennas of this type that we'll cover. But first, how do these antennas work?

As an antenna hacker, my hat is off to the folks who designed these OCFVD contraptions using an arsenal of tricks. We begin with an off-center feed point. On the short end (nearer to the ground), add a set of radials of modest length, commonly about 6 ft long and made of stainless steel.

Like an OCF dipole, you can experimentally find a place near one end that yields a similar impedance on all the desired bands. It's similar on all bands, but not 50 ohms, so you add a matching transformer to yield a reasonable SWR.

To improve the match on various bands, add some traps. These effectively cut off the far end of the antenna at their resonant frequency. They also act as an inductor at other frequencies, shortening the antenna. Traps can also be added to the radials.

Next, add some capacitance hats near the top of the antenna. These are a low-loss method of lengthening the antenna. Length of the capacity hat wires is another tuning element. And by placing them between traps, you can tune particular bands. A Christmas tree is born.

Finally, you can add one or more *coupled resonator*, or *open-sleeve elements*. These are typically 1/4 wavelength pieces of tubing that may or may not be directly connected to the rest of the antenna. Because they are resonant they literally "suck the power" away from the rest of the antenna structure on a specific band.

Somehow the crafty designer combines some or all of these elements into a reproducible package. A drawback of this complexity is that it can be tricky to tune in the field because some of the elements interact. I should also mention that, being an off-center fed antenna, the outside of your coax must be isolated via a robust *common-mode choke*. Most of the commercial antennas include this in their matching box. The matching transformer is also under some stress and between that and the choke, quite often you will find power limitations due to overheating. Running high power, you may see the SWR start to rise. Keep going, and the whole matching unit will eventually melt!

Some OCFVD Models

Chelegance model KC4 [Ref. 2] covers 40, 20, 15, and 10m and is 26 ft long with 9 ft radials. They use three traps in the vertical plus capacitance hats. It has limited power handling, such as 500 W on CW, which indicates that the matching system is under stress and probably dissipates a bit of energy, typical of this kind of antenna. It's

pretty light (16 lbs) and doesn't take up too much space. Mount it up on a pole as high as you can. This may be the only viable OCFVD antenna on the market at the moment…

Diamond Antenna model CP6AR covers 75, 40, 20, 15, 10, and 6m. It uses three traps plus capacitance hats and, unusually, tuned radials with traps. It's only 13 ft tall and radials are 6 ft long. Because it's so short, SWR bandwidth and power handling a highly compromised. For instance on 75m, bandwidth is only about 20 kHz and on 40m about 30 kHz. Also, it's only rated 70W CW. Clearly there's an efficiency problem in the matching box, likely qualifying this antenna as an "outdoor dummy load." The old Cushcraft antennas were taller but way better!

Installation Tips

Install guys: Many verticals require guys and they are most recommended in windy locations. Thankfully the wind loading isn't too severe so the guy anchors can usually be something simple like a piece of pipe driven in the ground, or a heavy eye bolt attached to the house, fence, or tree. Dacron rope is recommended for long lifetime in the sun.

Use an antenna analyzer: Don't try tuning up one of theses complex multi-band antennas without an antenna analyzer or it will take forever. You will have to raise and lower the antenna several times.

Elevate the base: If your chosen vertical does not use ground-based radials, it is very desirable to elevate the base of the antenna on some kind of mast or mount it on your roof. This will lower the takeoff angle and increase gain for better DX [Ref. 3]. Ideally the mast would be non-conductive but most of us just use some pipe.

Advantages and Disadvantages

As stated at the opening of this article, the reason for choosing an antenna like this is that you get multiple bands in a fairly compact installation, give or take some ground radials which at least you can hide. Efficiency is your main concern, followed by usable bandwidth, and some of the models we looked at are compromised in either or both aspects, so choose wisely. And like any vertical, we joke that they radiate "equally poorly in all directions," but seriously, any antenna is better than no antenna.

References

1) DX Commander website https://dxcommander.com/
2) Chelegance KC4 Antenna https://chelegance.com/products/cntou-kc4-shortwave-4-band-vertical-antenna/
3) Jim Brown, K9YC, "If I Could Put My HF Vertical On My Roof, Should I?" http://www.audiosystemsgroup.com/VerticalHeight.pdf

Fig 1, Base of DX Commander with radials. Note multiple radiators

Fig 2. Closeup of a Butternut trap. This is a very robust and low-loss design.

Fig 3. L → R: DX Commander, Hustler 6BTV, Hy-Gain, and Chelegance KC4

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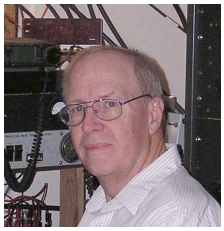
Tube of theMonth

Norm Wilson, N6JV

Visit the Tube Museum at *n6jv.com*

2C40 The Lighthouse



Many of the tubes that were used to make the first experimental RADAR sets were standard types as the frequency was relatively low and would work without modification. Early large ground RADARs were in the 100 – 200 MHz range. Developing higher RADAR frequencies quickly became a race to stay ahead of the competition and their ability to jam your system. The limit that a tube could operate at is determined by its output capacity and the length of any internal inductances. The grid to plate spacing in the 2C40 was only .3 mm.

The 2C40 was developed to be a low power oscillator or amplifier at a maximum of 3370 MHz to be used in microwave receivers or signal generators. That high frequency was achieved by using a tube with an output capacity of 1.3 pf and coaxial tank elements that were designed to mount directly on the tube. The tune-able cavity was designed to use concentric cylinders that were sized to slide over the 2C40 and make contact. When the cavity was assembled, the tube could be plugged into the end and a socket fed with a cable supplied filament power. The filament of the 2C40 was 6.3 volts at .75 amps. In a conventional oscillator or amplifier, the plate voltage would be 450 maximum at 22 ma. If used in a pulse application, 1400 volts could be used.

The 2C40 had a low noise figure for this period so it was used in preamplifiers for RADAR receivers such as the AN/TPS -1D and the AN/FPS-37 and the BP shipboard IFF interrogator.

(*Ed. Note: For a number of years in the 1950's-60's, GE published a ham newsletter titled "Lighthouse Larry" with a lighthouse tube named Larry (with arms and legs) in it's masthead. Among many construction articles, "Larry" brought some clarity to the new-fangled voice mode called Single Sideband which was just appearing in the phone bands, to the displeasure of the OT AM operators. Strangely, Google can't seem to find the magazine's repository.*)

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Editor Notes

Loss of Tom Taormina and the W7RN superstation dominated the news for many of us as June was wrapping up. Enough contests have been won and enough records set to literally fill the walls of the Comstock Memorial Station with lumber and certificates. The stations capability of up to 3 simultaneous remote operations with operators scattered around the country and a central log account for several of them in the later years. RIP Tom. I first met Tom in the very late 60's at the NASA Manned Spaceflight Center working on Apollo.

Sierra Radio Grill Details

Sunday, 27 Jul is the 2025 incarnation of the "Sierra Chapter" BBQ at N6XI Truckee, fully authorized by NCCC management. If you absolutely, positively, simply can't make it, we'll miss you and you'll miss a pleasant afternoon in the mountains, high above Boca's waters. It's also our July meeting.

Even if you reply to the official NCCC invitation, please let me know by direct email how many you'll be. Significant others, pets, and guests who shockingly don't YET belong to NCCC, MLDXCC, or TRASH are welcome, too, and often show up.

SPECIAL GUEST: Barring unforeseen circumstances, Wayne Burdick N6KR, co-founder of Elecraft, plans to join us this year. If we twist his arm, he may tell us something about upcoming products. And the open shack at N6XI will be full of Watsonville knobs to twiddle. Eric Swartz, WA6HHQ may also attend possibly with a K4/0 to demo.

We'll gather around 11 and stoke the grill around noon. No need to bring anything. If you have a beloved dessert, side, or beverage, feel free, but please don't bring any meat, shellfish, or exotic animal products. Ann and I will provide beef and veggie burgers, all-beef hot dogs, condiments, some salads, and drinks.

Do bring tall tales of contesting and DXploits, plain or with relish! Club badges will be handy in case someone doesn't know you in person yet or has lost your name in the haze of history. If you're coming from afar, consider making it a weekend or longer. There is lots to do in the mountains in addition to ham radio! Hiking, fishing, peak bagging, flying, music, swimming, boating, disk golf, real golf, mountain and road biking, ski area gondola rides, photography, sky diving, glider rides, and more. And down the road in Reno are all the diversions of the "Bggest Little City." Know when to fold 'em!

The address is 12921 Filly Ln, Truckee. It's inside the Damn Gate of The Meadows, on a ridge overlooking Boca Reservoir which is nearly full again this year, at least so far. The gate is open during the day. Unless your GPS map is really ancient, it should get you there. If not, call me at 408-896-0476. Parking is best in the unpaved area at the top of the driveway, opposite the house, demarcated by tree stumps. If we've filled areas close to the house, next best is at the end of the driveway, between the two buildings. Worst case, on the side of the long driveway or the cul-de-sac. Try to avoid the several light boxes (obvious) and electrical access boxes (tiny, hard to see). Let me know if you're coming, just by yourself or with guest(s). We hope to see you in the hills!

73,

Rick, N6XI, and Ann

About NCCC

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NA CW Sprint Teams: Bob Vallio, W6RGG
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Worked All CA Counties Award: Fred Jensen, K6DGW
Photographer: Bob Wilson, N6TV

NCCC Thursday Night Contesting

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NS CW Ladder: Bill Haddon, N6ZFO
NS RTTY Sprint/Ladder: Ed Radlo, AJ6V

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Cell: 530.210.0778

NCCC Membership Information

If you wish to join NCCC, please fill out an application for membership, which will be read and voted upon at our monthly meeting. To join, you must reside within club territory which is defined as everything in California north of the Tehachapi's up to the Oregon state line, and part of northwestern Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles north of Auburn on Highway 49).

Life Memberships

Life memberships are $250.00 Contact secretary.nccc@gmail.com. Members who have reached 80 years of age have and been an NCCC member for 20 or more years are eligible for Honorary Life Membership ("80/20 Rule"). Contact secretary.nccc@gmail.com

JUG Articles Wanted!

Please consider submitting an article! The preferred format is plain, unformatted ASCII text MS Word (.doc/.docx) are acceptable, Pictures should be as high a resolution as available. Please do not spend time formatting your submittal, the templates will re-format everything. Send your material to *k6dgwnv@gmail.com*

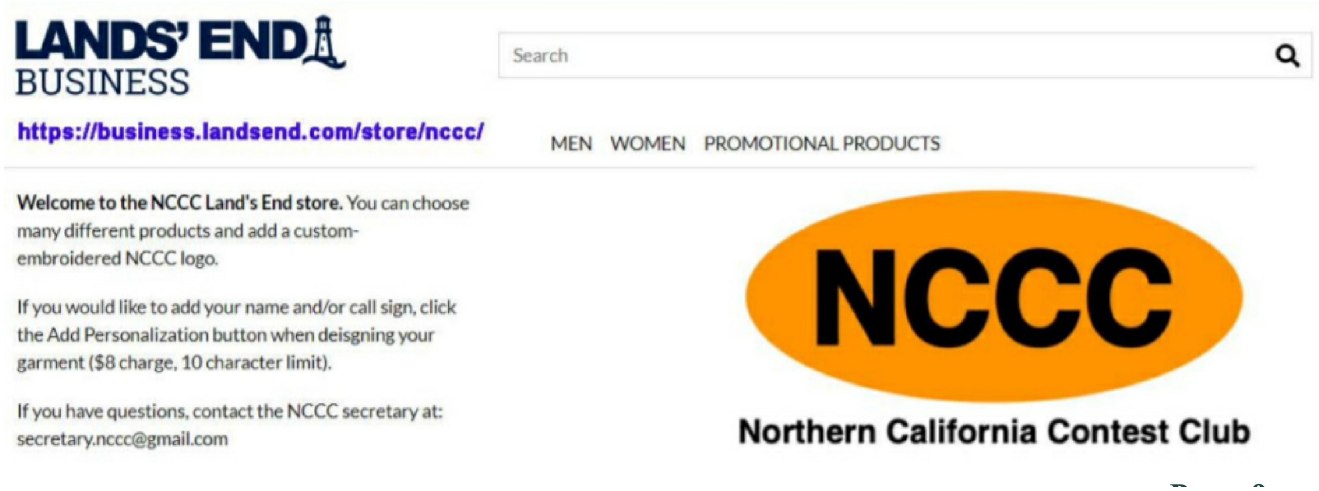
Northern California Contest Club Reflector—Guidelines

The NCCC email reflector is devoted to the discussion of contesting. Topics include contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/ conventions, and membership achievements. Postings may not include personal attacks, politics, or off-subject posts. Such postings will be considered a violation of the Guidelines

Find NCCC on Social Media

Facebook: "Northern California Contest Club"

Twitter: "NCCCKB"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MEN WOMEN PROMOTIONAL PRODUCTS
Welcome to the NCCC Land's End store. You can choose many different products and add a custom-embroidered NCCC logo.
If you would like to add your name and/or call sign, click the Add Personalization button when deisgning your garment ($8 charge, 10 character limit).
If you have questions, contact the NCCC secretary at: secretary.nccc@gmail.com
NCCC
Northern California Contest Club

NCCC Lands' End Store

We are pleased to announce that the new NCCC Land's End store is online! You can choose from an array of shirts, jackets, and hats and apply your choice of custom-embroidered NCCC logos: A plain one, or one that also says Fifty Years. And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

https://business.landsend.com/store/nccc/ or from the NCCC website: http://nccc.ccc/members/lestore.html
Thanks to W6TCP for helping to set this up. Instructions for purchases from Lands' End NCCC Store

1. Go to https://business.landsend.com/store/nccc/
2. Click on Men's or Women's link, then choose item(s)
3. Pick color, inter quantity of each size you want to order.
4. Click Apply Logos and Personalizations. This will display the logo choices. Try them out. It will show you what they look like on your chosen fabric color.
5. Select a location for logo (left side, ride side, back, etc)
6. Click Apply Logo.
7. Optionally, click Add Personalization to add your name or call sign ($8.00, 10 character limit)
8. Click Add to Bag and Continue Shopping or.

K4 HIGH-PERFORMANCE DIRECT SAMPLING SDR

A direct-sampling SDR you'll love to use

Our new K4 transceiver harnesses advanced signal processing while retaining the best aspects of the K3S and P3. It features a 7" touch display, plus a rich set of dedicated controls. Per-VFO transmit metering makes split mode foolproof. Band-stacking registers and per-receiver settings are versatile and intuitive. Control usage information is just one tap away thanks to a built-in help system.

Modular, hybrid architecture adapts to your needs

The basic K4 covers 160-6 m, with dual receive on the same or different bands. The K4D adds diversity receive, with a full set of band-pass filters for the second receiver. (Thanks to direct RF sampling, there's no need for crystal filters in either the K4 or K4D.) The K4HD adds a dual superhet module for extreme-signal environments. Any K4 model can be upgraded to the next level, and future enhancements--such as a planned internal VHF/UHF module--can be added as needed.

Single or dual panadapter, plus a high-resolution tuning aid

The main panadapter can be set up as single or dual. Separate from the main panadapter is our per-receiver *mini-pan* tuning aid, with a resampled bandwidth as narrow as +/- 1 kHz. You can turn it on by tapping either receiver's S-meter or by tapping on a signal of interest, then easily auto-spot or fine tune to the signal.

Comprehensive I/O, plus full remote control

The K4's rear panel includes all the analog and digital I/O you'll ever need. All K-line accessories are supported, including amps, ATUs, and our K-Pod controller. The Video output can mirror the K4 screen or display a high-res Panadapter only screen. Via Ethernet, the K4 can be 100% remote controlled from a PC, notebook, tablet, or even another K4, with panadapter data included in all remote displays. Work the world from anywhere--in style!

K4 KEY FEATURES

- Optimized for ease of use
- Modular, upgradeable design
- 7" color screen with touch and mouse control
- ATU with 10:1+ range, 3 antenna jacks
- Up to 5 receive antenna sources
- Full remote control via Ethernet

The K4 interfaces seamlessly with the KPA500 and KPA1500 amplifiers

'The performance of their products is only eclipsed by their service and support. Truly amazing!' **Joe - W1GO**

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IC-9700 | *All Mode Tri-Band Transceiver*

• VHF/UHF/1.2GHz • Direct Sampling Now Enters the VHF/UHF Arena • 4.3" Touch Screen Color TFT LCD • Real-Time, High-Speed Spectrum Scope & Waterfall Display • Smooth Satellite Operation

IC-7851 | *HF/50MHz Transceiver*

• 1.2kHz "Optimum" roofing filter • New local oscillator design • Improved phase noise • Improved spectrum scope • Dual scope function • Enhanced mouse operation for spectrum scope

IC-7300 | *HF/50MHz Transceiver*

• RF Direct Sampling System • New "IP+" Function • Class Leading RMDR and Phase Noise Characteristics • 15 Discrete Band-Pass Filters • Built-In Automatic Antenna Tuner

IC-7610 | *HF/50 MHz All Mode Transceiver*

• Large 7-inch color display with high resolution real-time spectrum scope and waterfall • Independent direct sampling receivers capable of receiving two bands/two modes simultaneously

IC-R8600 | *Wideband SDR Receiver*

10 kHz to 3 GHz Super Wideband Coverage • Real-time Spectrum Scope w/Waterfall Function • Remote Control Function through IP Network or USB Cable • Decodes Digital Incl P25, NXDN™, D-STAR • SD Card Slot for Receiver Recorder

IC-718 | *HF Transceiver*

• 160-10M** • 100W • 12V operation • Simple to use • CW Keyer Built-in • One touch band switching • Direct frequency input • VOX Built-in • Band stacking register • IF shift • 101 memories

IC-705 | *HF/50/144/430 MHz All Mode Transceiver*

• RF Direct Sampling • Real-Time Spectrum Scope and Waterfall Display • Large Color Touch Screen • Supports QRP/QRPp • Bluetooth® and Wireless LAN Built-in

IC-7100 | *All Mode Transceiver*

• HF/50/144/430/440 MHz Multi-band, Multi-mode, IF DSP • D-STAR DV Mode (Digital Voice + Data) • Intuitive Touch Screen Interface • Built-in RTTY Functions

IC-2730A | *VHF/UHF Dual Band Transceiver*

• VHF/VHF, UHF/UHF simultaneous receive • 50 watts of output on VHF and UHF • Optional VS-3 Bluetooth® headset • Easy-to-See large white backlight LCD • Controller attachment to the main Unit

ID-5100A Deluxe

VHF/UHF Dual Band Digital Transceiver

• Analog FM/D-Star DV Mode • SD Card Slot for Voice & Data Storage • 50W Output on VHF/UHF Bands • Integrated GPS Receiver • AM Airband Dualwatch

IC-V3500 | *144MHz FM Mobile*

• 65W of Power for Long Range Communications • 4.5 Watts Loud & Clear Audio • Modern White Display & Simple Operation • Weather Channel Receive & Alert Function

IC-2300H | *VHF FM Transceiver*

• 65W RF Output Power • 4.5W Audio Output • MIL-STD 810 G Specifications • 207 alphanumeric Memory Channels • Built-in CTCSS/DTCS Encode/Decode • DMS

IC-V86 | *VHF 7W HT*

• 7W OutputPower Plus New Antenna Provides 1.5 Times More Coverage • More Audio, 1500 mW Audio Output • IP54 & MIL-STD 810G–Rugged Design Against Dust & Water • 19 Hours of Long Lasting Battery Life • 200 Memory Channels, 1 Call Channel & 6 Scan Edges

IC-T10 | *Rugged 144/430 MHz Dual Band*

• Disaster Ready - Excellent Fit for Your Emergency Bag • Loud Audio - New Speaker Design • Long Bettery Life - Up to 11 Hours • FM Broadcast & Weather Channels

ID-52A | *VHF/UHF D-STAR Portable*

• Bluetooth® Communication • Simultaneous Reception in V/V, U/U, V/U and DV/DV • Enriched D-STAR® Features Including the Terminal Mode/Access Point Mode • UHF (225–374.995MHz) Air Band Reception

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FTDX101MP | *200W HF/50MHz Transceiver*

• Hybrid SDR Configuration • Unparalleled 70 dB Max. Attenuation VC-Tune • New Generation Scope Display 3DSS • ABI (Active Band Indicator) & MPVD (Multi-Purpose VFO Outer Dial) • PC Remote Control Software to Expand the Operating Range • Includes External Power With Matching Front Speaker

FTDX10 | *HF/50MHz 100 W SDR Transceiver*

• Narrow Band and Direct Sampling SDR • Down Conversion, 9MHz IF Roofing Filters Produce Excellent Shape Factor • 5" Full-Color Touch Panel w/3D Spectrum Stream • High Speed Auto Antenna Tuner • Microphone Amplifier w/3-Stage Parametric Equalizer • Remote Operation w/optional LAN Unit (SCU-LAN10)

FT-991A | *HF/VHF/UHF All ModeTransceiver*

Real-time Spectrum Scope with Automatic Scope Control • Multi-color waterfall display • State of the art 32-bit Digital Signal Processing System • 3kHz Roofing Filter for enhanced performance • 3.5 Inch Full Color TFT USB Capable • Internal Automatic Antenna Tuner • High Accuracy TCXO

FTDX101D | *HF + 6M Transceiver*

• Narrow Band SDR & Direct Sampling SDR • Crystal Roofing Filters Phenomenal Multi-Signal Receiving Characteristics • Unparalleled - 70dB Maximum Attenuation VC-Tune • 15 Separate (HAM 10 + GEN 5) Powerful Band Pass Filters • New Generation Scope Displays 3-Dimensional Spectrum Stream

FT-710 Aess | *HF/50MHz 100W SDR Transceiver*

• Unmatched SDR Receiving Performance • Band Pass Filters Dedicated for the Amateur Bands • High Res 4.3-inch TFT Color Touch Display • AESS: Acoustic Enhanced Speaker System with SP-40 For High-Fidelity Audio • Built-in High Speed Auto Antenna Tuner

FT-891 | *HF+50 MHz All Mode Mobile Transceiver*

Stable 100 Watt Output • 32-Bit IF DSP • Large Dot Matrix LCD Display with Quick Spectrum Scope • USB Port Allows Connection to a PC with a Single Cable • CAT Control, PTT/RTTY Control

FTM-300DR | *C4FM/FM 144/430MHz Dual Band*

• 50W Output Power • Real Dual Band Operation • Full Color TFT Display • Band Scope • Built-in Bluetooth • WiRES-X Portable Digital Node/Fixed Node with HRI-200

FT-2980R | *Heavy-Duty 80W 2M FM Transceiver*

• 80 watts of RF power • Large 6 digit backlit LCD display for excellent visibility • 200 memory channels for serious users

FTM-200DR | *C4FM/FM 144/430MHz Dual Band*

• 1200/9600bps APRS® Data Communications • 2" High-Res Full-Color TFT Display • High-Speed Band Scope • Advanced C4FM Digital Mode • Voice Recording Function for TX/RX

FTM-400XD | *2M/440 Mobile*

• Color display-green, blue, orange, purple, gray • GPS/APRS • Packet 1200/9600 bd ready • Spectrum scope • Bluetooth • MicroSD slot • 500 memory per band

FT-70DR *C4FM/FM 144/430MHz Xcvr*

• System Fusion Compatible • Large Front Speaker delivers 700 mW of Loud Audio Output • Automatic Mode Select detects C4FM or Fm Analog and Switches Accordingly • Huge 1,105 Channel Memory Capacity • External DC Jack for DC Supply and Battery Charging

FT-5DR *C4FM/FM 144/430 MHz Dual Band*

• High-Res Full-Color Touch Screen TFT LCD Display • Easy Hands-Free Operation w/Built-In Bluetooth© Unit • Built-In High Precision GPS Antenna • 1200/9600bps APRS Data Communications • Supports Simultaneous C4FM Digital • Micro SD Card Slot

FT-65R | *144/430 MHz Transceiver*

Compact Commercial Grade Rugged Design • Large Front Speaker Delivers 1W of Powerful Clear Audio • 5 Watts of Reliable RF Power Within a compact Body • 3.5-Hour Rapid Charger Included • Large White LED Flashlight, Alarm and Quick Home Channel Access

FTM-6000R | *50W VHF/UHF Mobile Transceiver*

• All New User Operating Interface-E2O-III (Easy to Operate-III) • Robust Speaker Delivers 3W of Clear, Crisp Receive Audio • Detachable Front Panel Can Be Mounted in Multiple Positions • Supports Optional Bluetooth® Wireless Operation Using the SSM-BT10 or a Commercially Available Bluetooth® Headset

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